

LOS INSECTOS DE LAS ISLAS JUAN FERNANDEZ

25. COLYDIIDAE (Coleoptera)

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Los Colydiidae están representados en Juan Fernández por cuatro especies. Pertenecen a *Pycnomerus* y *Pycnomerodes*, con una especie de cada género de Masatierra y Masafuera. Con la presencia del hasta ahora género monobásico *Pycnomerodes*, propio de Nueva Zelandia, se establece una nueva relación biogeográfica verdaderamente notable entre dicha isla y Juan Fernández.

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The following account is based largely upon material collected on Masatierra and Masafuera by the Rev. G. Kuschel and loaned to the author for study. The other material included in this paper is part of the collection made by Germain of the fauna of Masatierra and is now in the national collections of the British Museum (Nat. Hist.).

The islands present a most interesting although very limited fauna, four species of Colydiid occurring, all belonging to a single tribe, the Pycnomerini.

In other families it is found that the species of Masatierra are frequently not identical with, although very closely allied to, those of the same genera living on Masafuera and such is the case with the Colydiidae an excellent example of allopatric speciation. All four species have much reduced wing structure and are obviously incapable of flight. A further point which is of extreme interest is that one of the two genera on the islands was previously known solely from New Zealand. The genus is represented in the latter area by a single, fully winged species, different from, but undoubtedly congeneric with, the species of Juan Fernández. Links between the faunas of New Zealand and the west coast of South America are known in other groups but this is the first instance of such a connexion in the Colydiidae. The other genus present on the islands is of world-wide distribution.

Very little is known of the habits of the Pycnomerini; sometimes they are found in humus, but they are more often taken in dead wood in galleries bored by other insects. It seems possible that they may be fungivorous and in 1911 Buysson reported that in his opinion two species

of *Pycnomerus* occurring in Europe were in all probability myrmecophilous. However the Rev. Kuschel informs me that, although ants are present on Masafuera and Masatierra, he did not find them accompanied by Colydiidae.

Through the kindness of the Rev. Kuschel, paratypes of the new species described below are deposited in the British Museum (Nat. Hist.). Holotypes of new species are located as indicated beneath their description.

Pycnomerus insularis Grouvelle

Pycnomerus insularis Grouvelle 1898, Ann. Soc. Ent. Fr. 67: 380.

(18 ♂ 2 ♀) MASATIERRA, Mt. Miradero, 300 m. 13. II. 1951 in rotten trunk (Kuschel). (2 ♂ 3 ♀) Masatierra, Mt. Miradero, 500 m. 31. XII. 1951 (Kuschel). (1 ♂ 3 ♀) Masatierra, Mt. Miradero, 550 m. 15. II. 1951 (Kuschel). (6 ♂ 11 ♀) Masatierra, Picacho Central, 500 m. 4. II. 1952 on *Coprosma hookeri* (Kuschel). (5 ♂ 4 ♀) Masatierra, Cerro Alto, 600 m. 1. II. 1952 on *Nothomyrcia fernandeziana* (Kuschel). (2 ♀) Masatierra, El Camote, 400 m. 5. II. 1952 on *Dicksonia berteriana* (Kuschel). (8 ♂ 3 ♀) Masatierra, El Camote, 400 m. 5. II. 1952 on *Drimys confertifolia* (Kuschel). (1 ♀) Masatierra, El Camote, 500 m. 5. II. 1952 (Kuschel). (2 ♂) Masatierra, Alto Pangal, 600 m. 8. II. 1952 (Kuschel). (1 ♂ 1 ♀) Masatierra, Bahía Cumberland, 19. II. 1952 in dry wood (Kuschel). (1 ♀) Masatierra, Q. de las Casas, 19. I. 1952 on *Lophosoria quadripinnata* (Kuschel). (2 ♂ 3 ♀) Plazoleta el Yunque, 9. I. 1952 (Kuschel).

This species, a typical member of the genus *Pycnomerus*, does not appear to have any particularly close affinities with any one other species. It is obviously related to the central American *P. truquii* Pascoe, but also shows considerable connexion with a group of New Zealand species including *P. depressus* White, *simplex* Broun, and *basalis* Broun.



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Fig. 1. *Pycnomerus insularis* Grouvelle, antenna.—Fig. 2. *Pycnomerus germani* sp. n., antenna.

Pycnomerus germani sp. n.

Length 3—4,3 mm. Breadth 1—1,25 mm.

Derm ferruginous to piceous, shining, faintly and finely reticulate in part; head with umbilicate punctures larger than eye facets and separat-

ed by less than one diameter as a rule, eyes moderately well developed but with less facets than the European species, antennae as in fig. 2; depressions over antennal insertions well marked; pronotum trapezoidal, slightly elongate or quadrate, anterior angles scarcely produced, posterior angles well marked, slightly obtuse, lateral borders feebly serrate, convergent near anterior angles, posterior border irregularly raised medially; disc flat or slightly concave, punctate, punctures about as large as those of head but deeper, separated by about one diameter or slightly more, punctures of similar size anteriorly and laterally but more closely set; elytra about twice as long as their combined greatest breadth, lateral borders slightly but distinctly arcuate, very feebly sinuate near apices, then obtusely rounded to apicosutural angles; striatopunctate, striae with elongate, medially constricted punctures separated longitudinally by about one longitudinal diameter, intervals between striae convex, about as broad as longitudinal diameter of strial punctures, very sparsely set with minute elongate punctures, sutural and third intervals joined at basal borders of elytra, second intervals recurved shortly before apices and joined to combined fourth, sixth and eighth intervals, ninth intervals distinct to apical elytral borders; punctures of striae bearing extremely minute, stiff setae; prosternal process raised laterally, anterior coxae more widely separated than mid-coxae; metasternum shallowly foveate medio-basally, its median longitudinal sulcus confined to basal half.

Holotype a male in University of Chile, Santiago.

MASAFUERA, Inocentes Altos, 1,300 m. 22. I. 1952 on *Drimys confertifolia* (Kuschel) Paratypes (7 ♂ 10 ♀) With same data as holotype. (2 ♂ 3 ♀) Masafuera, Inocentes Bajos 1,000 m. 27. I. 1952 (Kuschel). (6 ♂ 1 ♀) Masafuera, Q. de las Casas, 19. I. 1952 on *Myrceugenia schultzei* (Kuschel). (3 ♂ 1 ♀) Masafuera, La Correspondencia, 1,300 m. 20. I. 1952 on *Drimys confertifolia* (Kuschel).

Sexual dimorphism.—In the male there is a median hypostomal fovea from which protrudes a bunch of short, fine setae. This is absent in the female.

Comparative notes.—This species is very closely related *P. insularis* Grouvelle of Masatierra and distinguishable only by the relative thickness of the antennae (figs. 1 and 2) and the carinate basal portion of the third elytral intervals.

Pycnomerodes Broun

Pycnomerodes Broun 1886, Man. Col. New Zeal. p. 954.

This genus, up to the present monobasic, was founded by Broun to include a single New Zealand species, *peregrinus* Broun. It is allied to

Pycnomerus Erichson as its name implies but differs therefrom in several important characters. The posterior and midcoxae are less widely separated. The eyes are divided horizontally by frontal extensions. The elytra have well marked epipleurae and the body as a whole is clearly pubescent.

***Pycnomerodes masafuerensis* sp. n.**

Length 3,6—4,7 mm. Breadth 1,25—1,6 mm.

Derm rufopiceous, matt; head much narrowed to anterior clypeal border, anterior border about one fourth as broad as maximum breadth of head, clypeus coarsely punctate, frons with shallow, irregular, often confluent, flat-topped granules, separated by less than one diameter and each bearing a seta in a minute apical puncture, granules on vertex less strongly raised; antennae as in fig. 3; pronotum (fig. 4) as long as broad, broadest at about middle, narrowed in anterior third to prominent, rectangular anterior angles, slightly less narrowed in basal third to feebly acute posterior angles; anterior border broadly truncate medially, sinuate toward anterior angles, posterior border raised, depressed medially, arcuate, sinuate near posterior angles; disc coarsely setosopunctate medially and basally, punctures separated by about one diameter or less, punctures closer laterally and anteriorly, often confluent, intervals irregularly raised giving a granulose appearance; lateral margins each with a broad impunctate sulcus extending from anterior to posterior angles, lateral borders narrowly and sharply raised; impunctate lateral areas continued along basal margins but obscured medially by a well marked W-shaped lobe formed from the base of the pronotal disc; scutellum small, depressed, transverse; elytra slightly less than twice as long as combined greatest breadth (22: 40), very slightly narrowed to shoulders, evenly rounded to apicosutural angles in apical third, very briefly emarginate at apicosutural angles, basal border of each elytron biarcuate-emarginate, junction of emarginations occurring at level of third intervals; disc and margins striatopunctate, punctures separated longitudinally by somewhat less than one longitudinal diameter, separated transversely by a little more than one transverse diameter, intervals between striae each with a row of more or less evenly spaced, minute punctures, separated by up to six diameters, punctures having raised borders and each bearing a fine outstanding golden seta, intervals between striae subcarinate toward bases, apices and lateral margins, obliterated near apical borders, sutural intervals slightly carinate to basal and apical borders, ninth intervals carinate almost to apical borders, other intervals clearly stopping before reaching apical borders, intervals five and seven joined near beginning of apical declivity, combined interval reaching to about halfway down declivity; lateral elytral

borders bearing outstanding golden setae; elytral epipleurae evenly narrowed from level of hind coxae to apices; pro-, meso-, metasternum and abdominal segments closely and coarsely punctured, punctures usually separated by much less than one diameter and bearing fine golden setae usually shorter than those of the upper surfaces.

Genitalia fig. 5.

Holotype a male in University of Chile, Santiago.

MASAFUERA, Inocentes Altos 1,300 m. 22.I.1952 on *Drimys confertifolia* (Kuschel) Paratypes (1 ♂ 4 ♀) with same data as type. (3 ♂) Masafuera, Las Chozas 700 m. 14.I.1952 (Kuschel). (1 ♂ 1 ♀) Masafuera, La Correspondencia. 1,300 m. 20.I.1952 (Kuschel). (2 ♀) Masafuera, Q. de las Casas, 19.I.1952 (Kuschel).

Sexual dimorphism.—The two sexes are very similar in this species but a constant distinguishing character is the presence in the male of a median hypostomal tuft of setae. The female has no such ornament but usually a transverse median punctate depression on the hypostomum.

Comparative notes.—*P. masafuerensis* is closely related to the New Zealand species *P. peregrinus* Broun but may be distinguished as follows: The derm is matt instead of shining and slightly sericeous. The setae in the punctures are distinctly shorter. The elytral epipleurae are evenly narrowed posteriorad instead of broadened behind the hind coxae as in *peregrinus* and the tibial spurs are shorter. In *peregrinus* the wings are fully developed.

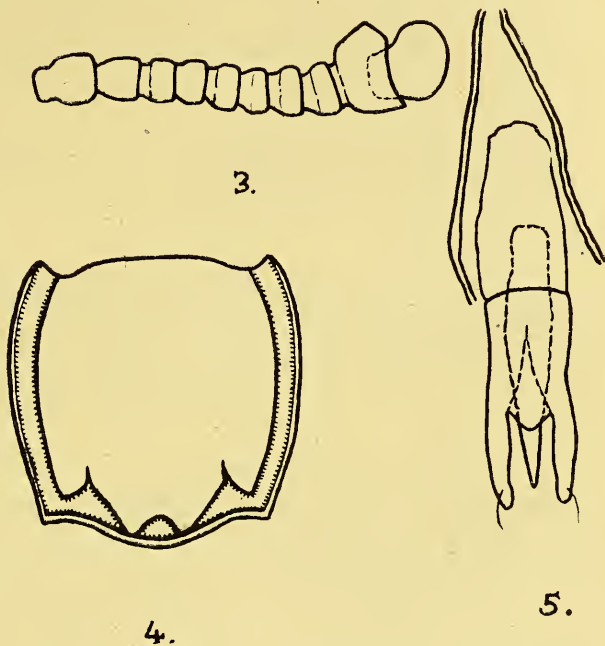


Fig. 3. *Pycnomerodes masafuerensis* sp. n., antenna.—
Fig. 4. *Pycnomerodes masafuerensis* sp. n., pronotum
(Diagramatic).
Fig. 5. *Pycnomerodes masafuerensis* sp. n., male genitalia.

Pycnomerodes masatierrensis sp. n.

Length 3,45—4,55 mm. Breadth 1,2—1,7 mm.

This species is extremely closely related to *masafuerensis* from which it is distinguishable only in the following respects.

The elytra are relatively less elongate and more rounded laterally, the carinate intervals are slightly more strongly raised, especially the basal part of the third intervals; the frontal granulation is more discrete and more strongly raised; the median posterior emargination of the basal lobe of the pronotal disc is more shallow than that usually found in *masafuerensis*. The genitalia of the male do not differ from those of the other species.

Holotype a male in British Museum (Nat. Hist.) «Chili» (sic) (Germain) (actually from MASATIERRA).

Paratypes (1 ♀) «Chili» (sic), Ils. Juan Fernández (Germain) (actually from Masatierra).

(1 ♀) «Chili» (sic), (Germain) (actually from Masatierra). (1 ♀) Masatierra, Bahia Cumberland, 19.II.1952 in dry wood (Kuschel). (1 ♂) Masatierra, Mt. Miradero, 550 m., 15.II.1951 (Kuschel).

KEY TO THE COLYDIIDAE OF JUAN FERNÁNDEZ ILS.

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| 1. | Eyes entire; coxae more widely separated; elytral epipleurae very narrow behind hind coxae; setae in punctures extremely minute; external apical tibia spurs slightly produced..... | 2 |
| — | Eyes almost completely divided horizontally by frontal extensions; coxae less widely separated; body clearly pubescent; external apical tibial spurs strongly produced..... | 3 |
| 2. | Antennae as in fig. 2; carina of third elytral intervals somewhat more strongly raised at base than carinae of other intervals. (Masafuera) | <i>Pycnomerus germaini</i> sp. n. |
| — | Antennae as in fig. 1; carina of third elytral intervals not more strongly raised at base than carinae of other intervals (Masatierra)..... | <i>Pycnomerus insularis</i> Grouvelle |
| 3. | Elytra usually more elongate (2,05—1,87.1); frontal granules shallowly raised and somewhat confluent; emargination of basal pronotal lobe usually less obtuse, often rectangular (Masafuera) | <i>Pycnomerodes masafuerensis</i> sp. n. |
| — | Elytra usually less elongate (1,91—1,68.1); frontal granules more strongly raised, not confluent; emargination of basal pronotal lobe strongly obtuse (Masatierra)..... | <i>Pycnomerodes masatierrensis</i> sp. n. |